

REMARKS

This is in response to the Office Action that was mailed on November 22, 2006. Claim 2 is amended to recite a feature of claim 8 and claim 8 is accordingly cancelled, without prejudice. Further support for the amendment to claim 1 is found in lines 18-22 on page 24 of the specification:

Besides, the component (G) may be premixed with water to hydrolyze a part or all of the hydrolyzable groups into silanol groups to improve the dispersibility, and a homogeneous aqueous solution thus formed is used to make the composition. To facilitate the homogenization, the hydrolysis may be promoted by raising a temperature or by adjusting a pH of an aqueous phase to the range of from 2 to 4 with a little amount of acid. An excessively low pH may promote condensation of the hydrolyzed products to have an adverse effect.

No new matter is introduced by this Amendment. Claims 2-4 and 9-16 remain pending in the application.

ANTICIPATION. Claims 2-4 and 10-16 were rejected under 35 USC § 102(b) as being anticipated by DE 24 49 085. Inasmuch as independent claim 2 has been amended to recite a feature of claim 8, which was not rejected as being anticipated by DE 24 49 085, this ground of rejection does not apply to claims 2-4 and 10-13 in their current form. Each of claims 14-16 requires, among other things, paper. Example 3 of the reference, to which the Examiner refers in the anticipation rejection, discloses cardboard but not paper. Accordingly, claims 14-16 are likewise not anticipated by DE 24 49 085. Withdrawal of the stated rejection under 35 USC § 102(b) is accordingly respectfully requested.

THE INVENTION. The composition of the present invention includes a silane (G) at least part of which has been converted to silanol or a condensate of the silanol. In this invention, it is believed that the silanol group produced by the hydrolysis of the hydrolyzable group reacts with PVA and insolubilizes the PVA, leading to high oil repellency of a coating made of the present composition. Specification, page 21, line 17 ("The more the hydrolyzable groups, the greater the oil repellency").

To attain this conversion of the component (G), the component (G) is mixed with water prior to other components, as described in the specification, page 24, line 18-22. Mere mixing of a silane with other components cannot generate silanol. The reason for this is that a silane has much higher affinity to an organopolysiloxane than to water, so that it is included in an organopolysiloxane phase. Even if the organopolysiloxane phase is emulsified, hydrolysis reactions are very insignificant.

OBVIOUSNESS. Claims 8 and 9 were rejected under 35 USC § 103(a) as being unpatentable over DE 24 49 085. The Examiner acknowledges that Example 3 of DE 24 49 085 does not teach or suggest the use of a silane. However, the Examiner refers to generic disclosure elsewhere in the reference as allegedly being suggestive of the use of a silane.

DE 24 49 085 is silent as to how to add epoxypropyloxytriethoxysilane to a composition. As Applicants have discovered, unless the epoxysilane coupling

agent is brought into contact with water first, it is dissolved in the organopolysiloxane and is not hydrolyzed. The cited reference also describes a condensate of methyltriethoxysilane on page 6. However, DE 24 49 085 teaches the use of the condensate as a crosslinking agent for the organopolysiloxane.


DE 24 49 085 neither teaches nor suggests mixing epoxypropyloxytriethoxysilane with water before mixing with other components. This feature is stated in claim 2 as “at least part of the silane (G) having been converted to silanol by hydrolyzing the hydrolyzable group and/or a condensate of the silanol”. Therefore, Applicants respectfully submit that the present composition – comprising the component (G) in an at least partly hydrolyzed state to have high oil-repellency – would not have been obvious from DE 24 29 085.

Applicants having removed all grounds for rejection of this application, the Examiner is respectfully requested to pass this application to Issue.

The Examiner is invited to contact Richard Gallagher (Reg. No. 28,781) at
(703) 205-8008 with any questions pertaining to this application.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By  #28,781
f Gerald M. Murphy, Jr., #28,977

GMM/RG
4710-0106P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000